

What is claimed is:

1. An optical coupler comprising:
a spherical lens; and
an aspherical lens; and
wherein said lenses are situated in the same optical
path.
2. The coupler of claim 1, wherein:
said spherical lens comprises a glass material; and
said aspherical lens comprises a non-glass material.
3. The coupler of claim 2, wherein said spherical lens is
a ball lens.
4. The coupler of claim 3, wherein said aspherical lens
comprises a plastic material.
5. The coupler of claim 4, wherein said aspherical lens is
approximately concave.

6. The coupler of claim 4, wherein said aspherical lens is approximately convex.

7. The coupler of claim 5, wherein said aspherical lens is a molded plastic lens.

8. The coupler of claim 6, wherein said aspherical lens is a molded plastic lens.

9. The coupler of claim 7, wherein said aspherical lens is injection molded.

10. The coupler of claim 8, wherein said aspherical lens is injection molded.

11. The coupler of claim 3, wherein:

a light source is situated proximate to said spherical lens; and

an optical medium is situated proximate to said aspherical lens;

12. The coupler of claim 11, wherein light from the light source may propagate through said spherical lens and said aspherical lens, respectively.

13. The coupler of claim 12, further comprising a window situated between the light source and said spherical lens.

14. The coupler of claim 13, wherein the optical medium is an optical fiber.

15. The coupler of claim 14, wherein the light source is a vertical cavity surface emitting laser.

16. The coupler of claim 15, wherein the optical fiber is single mode.

17. An optical coupling system comprising:
a spherical ball lens; and
an aspherical lens; and
wherein said spherical ball lens and said aspherical lens are situated on a common optical axis.

18. The system of claim 17, wherein said aspherical lens is coupled to an optical fiber.

19. The system of claim 18, wherein said aspherical lens is composed of a non-glass material.

20. The system of claim 19, wherein said aspherical lens is composed of a plastic material.

21. A coupling means comprising:

means for spherically focusing light from a light source;

means for aspherically focusing light from said means for spherically focusing light; and

means for inputting light into an optical medium from said means for aspherically focusing light.

22. The coupling means of claim 21, wherein:

the light source is a laser; and

the optical medium is a fiber.

23. The coupling means of claim 22, wherein:

the laser is a vertical cavity surface emitting laser;

and

the fiber is a single mode optical fiber.

24. The coupling means of claim 23, wherein said means for spherically focusing light conveys more light power than said means for aspherically focusing light.

25. The coupling means of claim 24, wherein:

said means for spherically focusing light uses glass-

like material for focusing light; and

said means for aspherically focusing light uses

plastic-like material for focusing light.

26. A method for coupling light, comprising:

spherically focusing light from a light source

resulting in a first portion of light having a

first focal point on an optical axis and a second

portion of light having a second focal point on

the optical axis; and

aspherically focusing the first portion of light and

the second portion of light resulting in the

first and second portions of light having a
common focal point.

27. The method of claim 26, wherein:
spherically focusing the light from the light source
is effected by a ball lens; and
aspherically focusing the first and second portions of
light from the ball lens is effected by an
aspherically-shaped lens.
28. The method of claim 27, wherein the common focal point
is at a place of an optical medium.
29. The method of claim 28, wherein:
the ball lens comprises a glass-like material; and
the aspherically-shaped lens comprises a plastic-like
material.
30. The method of claim 29, wherein:
the light source is a laser; and
the optical medium is an optical fiber.

31. The method of claim 30, wherein:
the laser is a vertical cavity surface emitting light
source; and
the optical fiber is a single mode fiber.
32. An optical coupler comprising:
an aspherical lens on an optical axis; and
a spherical lens on an optical axis; and
wherein:
said aspherical lens is proximate to an optoelectronic
element; and
said spherical lens is proximate to an optical medium.
33. The coupler of claim 32, wherein:
said aspherical lens comprises a plastic-like
material; and
said spherical lens comprises a glass-like material.
34. The coupler of claim 33, wherein said spherical lens
is a ball lens.
35. The coupler of claim 34, wherein:

said optoelectronic element is a light source; and
said optical medium is an optical fiber.

36. The coupler of claim 35, wherein the light source is a laser.

37. The coupler of claim 36, wherein:
the laser is a vertical cavity surface emitting laser;
and
the optical fiber is single mode fiber.

38. The coupler of claim 34, wherein:
the optoelectronic element is a detector; and
said optical medium is an optical fiber.

39. The coupler of claim 38, wherein said optical fiber is single mode fiber.

40. The coupler of claim 38, wherein said optical fiber is multimode fiber.